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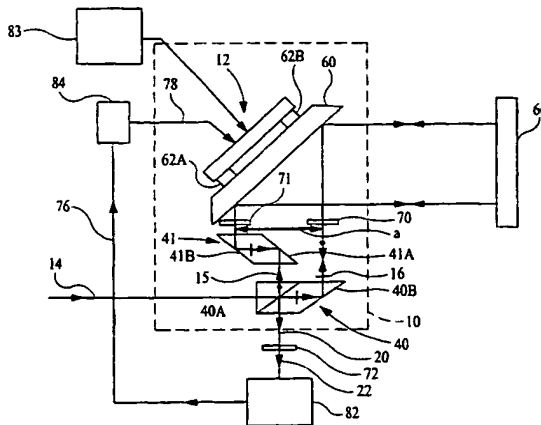
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(54) Title: **INTERFEROMETRY SYSTEM HAVING A DYNAMIC BEAM-STEERING ASSEMBLY FOR MEASURING ANGLE AND DISTANCE**

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(57) Abstract: The invention features an interferometry system that measures changes in the angular orientation of a measurement object and that also includes at least one dynamic beam-steering assembly. The dynamic beam-steering assembly redirects one or more beams within the interferometry system in response to a change in the angular orientation of the measurement object. In many embodiments, the presence of the dynamic beam-steering assembly permits the interferometry system to measure the angular orientation of the measurement object using only a single measurement beam to contact the measurement object. Furthermore, in many embodiments, a control signal derived from the measurement beam contacting the measurement object causes the beam-steering assembly to redirect a measurement beam to contact the measurement object at normal incidence. When at such normal incidence, the interferometry system can calculate the angular orientation of the measurement object based on one or more interferometric signals derived from the measurement beam or based on the orientation of the beam-steering assembly itself.

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